

REMARKS

In the Office Action¹ dated May 30, 2008, the Examiner objected to claim 26; rejected claims 19 and 50 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,762,748 to Maattaet et al. ("Maattaet"); and rejected claims 20, 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, and 49 under 35 U.S.C. § 103(a) as being unpatentable over Maattaet in view of U.S. Patent No. 5,504,502 to Arita et al. ("Arita").

By this Amendment, Applicant cancels claim 20, amends claims 19, 26, and 49, and adds new claims 51-66. Claims 19, 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, 49, and 50-67 are now pending, and the rejection of claim 20 is rendered moot by the cancellation.

Objection to Claim 26

Applicant amends claim 26 to recite "said magnetic sensors are disposed and faced to one of the outer ring sections of said ring-like magnet." Therefore, the claim does not recite "said ring-like magnet magnetized," and Applicant respectfully requests the Examiner to withdraw the objection.

Rejection of Claims 19 and 50 under 35 U.S.C. § 103(a)

Applicant respectfully traverses the rejection of claims 19 and 50 under 35 U.S.C. § 103(a) as being unpatentable over Maattaet. A *prima facie* case of obviousness has not been established.

Claim 19 recites a pointing device including "a ring-like magnet that is movably supported in a plane, and is magnetized such that said ring-like magnet comprises

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement of characterization in the Office Action.

inner and outer ring sections of north and south magnetization that are both in said plane along a radius of said ring-like magnet,” and “a plurality of magnetic sensors for detecting magnetic flux density produced by said ring-like magnet” (emphasis added). Maattaet does not teach or suggest at least these elements of claim 19 and, therefore, does not render claim 19 obvious.

Figure 2a of Maattaet “shows a side view of **two permanent cylindrical (or annular) magnets** and their resulting magnetic flux densities.” (Emphasis added, column 5, lines 26-28). Maattaet further explains:

[a]s is shown in the figure, permanent **magnets** that are stacked such that the **North Pole of a magnet 1 (M1)** always faces the **South Pole of an adjacent magnet 2 (M2)** results in the **magnets** attracting each other and **maximizes the flux density**. (Emphasis added, column 5, lines 33-37).

Thus, Maattaet discloses stacking two magnets on top of each other such that the north pole of magnet M1 faces the south pole of a second magnet M2, in order to maximize the flux density between the two magnets. But M1 and M2 do not form or comprise “inner and outer ring sections of north and south magnetization that are both in said plane along a radius of said ring-like magnet,” as recited in claim 19. This is because neither above quoted portion nor any other portion of Maattaet discloses a ring-like magnet having inner and outer ring sections as is taught and claimed by Applicant.

Accordingly, no *prima facie* case of obviousness has been established with regard to claim 19 and claim 19 is allowable for at least these reasons. Claim 50 is also allowable at least due to its dependence from claim 19.

Rejection of Claims 20, 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, 49 under 35 U.S.C. § 103(a)

Applicant respectfully traverses the rejection of the claims under 35 U.S.C. § 103(a) as being unpatentable over Maattaet in view of Arita. A *prima facie* case of obviousness has not been established.

As discussed above, Maattaet does not disclose, nor does it teach or suggest, all the features of independent claim 19. Claims 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, 49 depend from claim 19 and thus, include all the features of claim 19. Arita does not cure the deficiencies of Maattaet. That is, Arita also does not teaches or suggest the claimed pointing device wherein “a ring-like magnet that is movably supported in a plane, and is magnetized such that said ring-like magnet comprises **inner and outer ring sections of north and south magnetization that are both in said plane along a radius of said ring-like magnet,**” (emphasis added) as recited in claim 19, and included in dependent claims 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, 49.

Arita discloses a pointing control device in which magnetic sensors (14 and 14') are disposed under a permanent magnet (18). Arita, Figure 1. As is shown in at least Figures 1, 7A-C, 8A-B, 9A, and 10, of Arita, permanent magnet 18 of Arita is not a “ring-like magnet,” as recited in claim 19. This is because, in Arita, permanent magnet 18 is a circular magnet with a solid center, where half of permanent magnet 18 is magnetized to function as a north pole and the other half of the permanent magnet 18 is magnetized to function as a south pole. See Arita, Figure 8. Thus, Arita also does not teach or suggest a magnet that “comprises **inner and outer ring sections of north and south magnetization that are both in said plane along a radius of said ring-like magnet,**”

(emphasis added) as recited in claim 19. Only one magnetization is along any radius of Arita.

Moreover, one of ordinary skill in the art would have recognized that Maattaet teaches away from Arita, because Maattaet teaches using two annular stackable magnets to detect the distortion created by the magnetic fields of the two magnets, while Arita teaches using only one circular magnet. Therefore, Maattaet teaches away from using one magnet.

For at least these reasons, no *prima facie* case of obviousness has been established with respect to dependent claims 21, 23-26, 33-35, 37, 38, 43, 44, 46, 47, 49 and the claims are allowable at least by virtue of their dependence from base claim 19.

New Claims 51-67 are allowable over Maattaet and Arita

Applicant asserts that new claims 51-66 are also allowable because the claims are neither anticipated nor rendered obvious by Maattaet and Arita.

Claim 51 teaches a pointing device including “**a ring-like magnet that is movably supported in a plane, and is internally and externally magnetized along said ring in said plane,**” and a plurality of magnetic sensors “positioned a distance from a location half way between an upper and lower surface of said ring-like magnet to a location half way between an upper and lower surface of one of said magnetic sensors **is within 0 and 0.75 mm in vertical direction to said plane**” (emphasis added). Neither Maattaet nor Arita teach or suggest at least these elements of independent claim 51.

As noted above, Maattaet discloses using sets of two magnets where each magnet is magnetized such that a south pole of a particular magnet faces the north pole

of a magnet stacked on top of the particular magnet. Thus Maattaet does not disclose “a ring-like magnet that is movably supported in a plane, and is internally and externally magnetized along said ring in said plane,” as recited in claim 51. Further, Arita teaches a circular magnet with a solid center and, thus, also does not disclose the “ring-like magnet” of claim 51.

Moreover, neither Maattaet nor Arita disclose the pointing device of claim 51 wherein “a distance from a location half way between an upper and lower surface of said ring-like magnet to a location half way between an upper and lower surface of one of said magnetic sensors **is within 0 and 0.75 mm in vertical direction to said plane**” (emphasis added). Maattaet, however, is silent with respect to distance required by claim 51.

Further, Arita discloses a pointing control device in which magnetic sensors (14 and 14') are disposed under a permanent circular magnet 18 that has a solid center. Arita, Figure 1. However, Arita also is silent as to the recited distance of claim 51.

As is discussed on page 17, lines 7-25 of the specification of the present application, the claimed distance of “within 0 and 0.75 mm” enables the pointing device of claim 51 to function more effectively. This is because when a distance from a location half way between an upper and lower surface of said ring-like magnet to a location half way between an upper and lower surface of one of said magnetic sensors is within 0 and 0.75 mm in vertical direction to said plane, the magnetic flux density variations generated this distance equal to at least $\pm 20\text{mT}$, which are easier to detect by magnetic sensors. These magnetic flux density variations increase as the distance

comes closer to zero and thus, the range of within 0 and 0.75 mm has an added advantage over the pointing devices disclosed Maattaet and Arita.

For at least these reasons independent claim 51 is allowable over Maattaet and Arita, and dependent claims 52-66 are allowable at least by virtue of their dependence from base claim 51.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

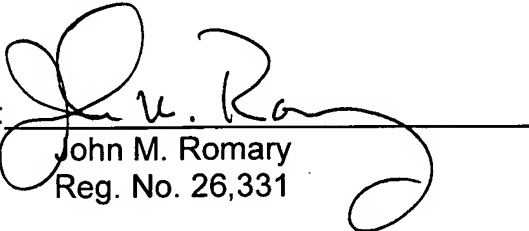
Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: October 30, 2008

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